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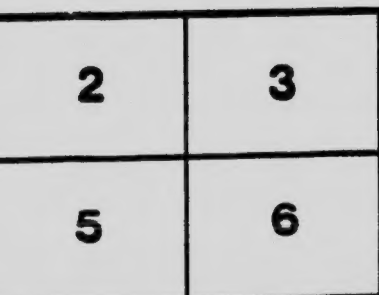
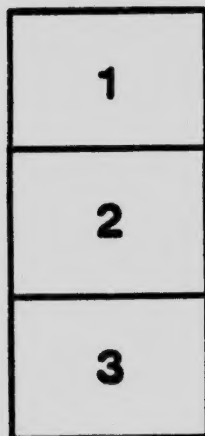
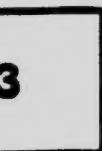
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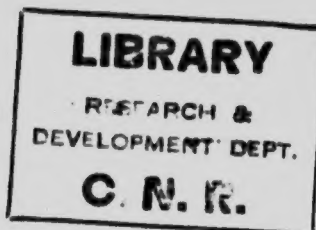
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EXHIBITION CIRCULAR No. 51
BEE DIVISION



FACTS ABOUT HONEY

(Revised December, 1920.)

BY

F. W. L. SLADEN

Honey is the nectar of flowers modified in the honey sac of the bee, and concentrated by evaporation in the hive. Chemically, it consists of sugar and water, in the proportion of three to seven parts of sugar to one of water, with small quantities of mineral matter, pollen and other substances, including volatile oils and formic acid, which supply the flavour. Only a very small part of the sugar in honey is cane



Photo by C. B. Gooderham.

Extracted Honey in glass jars and 5-lb. and 10-lb. pails.
The pails are more economical.

sugar, the ordinary sugar of commerce: the rest belongs to a class of sugar known as invert sugar, which is produced in the first stage of the digestion of cane sugar. Hence, honey is sometimes referred to, though not quite correctly, as "predigested sugar." The invert sugars, dextrose and levulose, are present in honey in about equal proportions.

DOMINION OF CANADA
DEPARTMENT OF AGRICULTURE
EXPERIMENTAL FARMS

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Since honey consists principally of sugar, it belongs to the class of fuel foods that produce heat and energy, as opposed to those that repair the tissues. The food value of honey has been found to be 1,485 calories to the pound.

Honey has lately been shown to contain small quantities of vitamins, those hidden substances contained in many natural uncooked foods, which have been discovered to aid so much in the maintenance of health, and especially in the healthy development of children.

It is evident that as a supplementary food for children no less than for adults, honey occupies a high place, and it should form a portion of the daily ration of every family in the land. Spread with butter or alone upon bread, it makes the latter more appetizing. To help to meet the present day demand for a variety of nutritious and delectable foods that do not require cooking, honey is particularly well qualified. It is a concentrated food ready for use at all times; and there is no waste, for well ripened honey keeps in good condition for any reasonable length of time provided it is stored in a dry place.

Canada abounds in nectar-producing flowers, and honey is an important food product of the country. The quality of Canadian honey is unsurpassed, it being true of honey as of several other articles of food that the northern product is of a superior grade.

In commerce, honey is divided according to colour into white honey and dark honey. A grade between the two, known as amber honey, is often recognized. These colour distinctions, however, are for convenience only. A better way to classify honey is by the plants from which it is gathered, each of which imparts to the honey a distinct colour and flavour. Most light-coloured varieties of honey are mild flavoured and the dark are strong flavoured. The light-coloured, mild-flavoured honeys are sold at a higher price than the dark-coloured, strong-flavoured kinds, but tastes vary and some people prefer strong-flavoured honey. The impression that dark honey is necessarily of inferior quality is erroneous.

Most of the white honey produced and sold in Canada is clover honey gathered from alsike and Dutch clover. Commercial clover honey in its fresh liquid condition has a light straw tint, and it granulates in a few weeks to a creamy white. Clover honey has a delicate flavour of which one does not tire, and it is regarded by judges as the standard of fine honey. Basswood honey is another fine white variety that granulates quickly, but it has a strong flavour for which it is highly esteemed. The cutting down of many basswood trees has made this honey less plentiful in recent years than formerly.

A third kind of white honey that deserves mention is that produced by the willow herb or fireweed, a tall plant, with large magenta flowers, common in forest clearings. Pure fireweed honey is nearly water-white, like clover and basswood honey, it granulates almost as hard as lard. The flavoured fireweed honey is very delicate.

In Southern Canada the principal dark honey comes from buckwheat. Buckwheat honey is deep purplish brown, and its pronounced aroma and flavour recall somewhat the famous heather honey of Scotland. Some people consider the flavour of buckwheat honey to be too strong, but it makes an excellent blend with other honeys with which indeed the Canadian product is generally mixed by the bees.

The colour and flavour of most samples of honey, except clover honey gathered in the principal honey-producing regions, are influenced more or less by a variety of melliferous flowers occurring in swamps, woodlands, pastures, orchards and prairies, such as goldenrods, asters, dandelion, fruit bloom, milkweed, Canada thistle, sweet clover, viper's bugloss, wild bergamot, and mints of different kinds. Each of these plants contributes a distinct flavour, similar, in most cases, to the perfume of the flower.

Honey is marketed in two forms, extracted honey and comb honey. Extracted honey is produced more economically than comb honey, and is more easily shipped. It is obtained by throwing the honey out of the combs by centrifugal force in a honey extractor, the combs being afterwards returned to the bees to be filled again.

Extracted honey is put up in glasses usually containing about one pound, and in tins holding two and one-half pounds, five pounds, ten pounds, thirty pounds and sixty pounds. Probably the most popular sizes are the five and ten-pound tin pails, either of which makes a convenient and economical package, while the larger sizes are very suitable for family use. Beekeepers are scattered all over the country, except in some parts of the prairie, and the practice of buying a supply of honey in the fall from a neighbouring beekeeper is a very good one. The beekeeper often has more than one kind of honey for sale, and is thus in a position to suit the individual taste of the purchaser.

The principal honeys of Canada granulate within a few weeks after extraction. This granulation is hastened by cold. The feeling that some people have, that granulated honey is not perfectly good, is unfounded. Granulated honey is not one bit inferior, except perhaps in appearance, to the liquified article, and it has certain advantages. It is not liable to leak out of the package, it is easier to handle, and children are less likely to get it onto their fingers and clothes. Honey may be liquified by warming the vessel containing it in water that is kept not much hotter than the

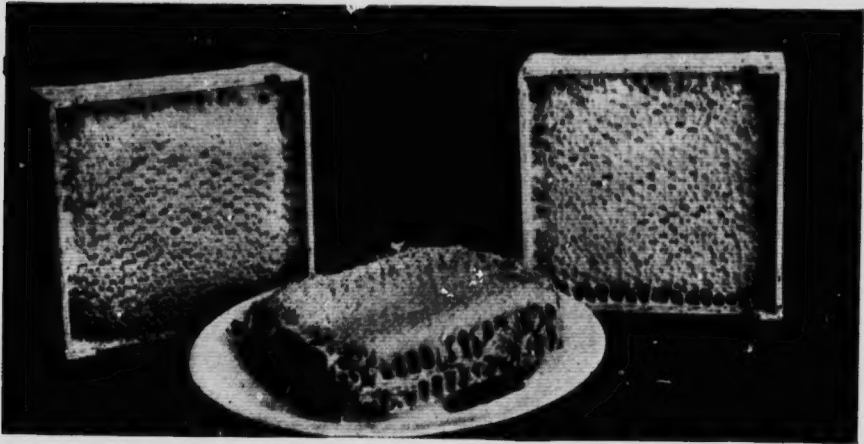


Photo by C. B. Gooderham.

Comb Honey.

hand can bear. If the honey is brought to the boil, or even raised to 160° F. for any length of time, the colour will darken and the delicate flavour will be lost. It should, therefore, never be liquified by the direct application of heat. In time, most examples of liquified honey commence to granulate again, acquiring a composite "sugary" appearance, which has occasionally caused their purity to be called in question. It is sometimes stated that the granulation of honey is a proof of its purity. This is not true. Nevertheless well granulated examples supply a certain safeguard against adulteration to the purchaser, who seldom is in a position to submit the honey before purchase to chemical analysis, and has therefore to rely on general appearance. The adulteration of honey, however, is rare in Canada. Out of 194 samples of honey examined by the Inland Revenue Department in 1913-14 and reported upon in the department's Bulletin No. 289, only ten were found to be adulterated.

Comb honey in sections weighing a pound or a little less, is a fancy article which is particularly attractive to many consumers on account of its natural appearance and undoubted purity. The purchaser can be sure that comb honey is pure, because it is not possible to adulterate it profitably.

Honey is used to a considerable extent and with very satisfactory results in cooking. In baking, it has the valuable and useful property of keeping cakes and biscuits moist and fresh for a long time. For this purpose, the darker grades are usually employed. In substituting honey for sugar in cooking, it is a good rule to use the same quantity of honey, but one-fourth of this quantity less of milk, or any other liquid called for by the recipe. Since honey contains acid, soda makes a sufficient raiser for honey cake. Cookies, candies, ice cream, custards and puddings are very good made with honey in place of sugar. Excellent vinegar can be made from honey. Honey can also be used very satisfactorily for sweetening lemonade and other fruit drinks, and in preserving some kinds of fruit.

Honey enters into the composition of several remedies for sore throat and coughs, and some individuals find it has a laxative action, which may be expected to vary according to the genus of plant from which it is gathered.

Honey will absorb water from damp air, which renders it liable to ferment and spoil. It should, therefore, be stored in a dry place, or kept tightly sealed. Samples of honey that have a rather high water content will keep in good condition if the excess of water contained in them is early driven off by long continued gentle heat, or if they are kept in a temperature not exceeding 45°. Good samples of liquid honey flow but slowly when the temperature is below 70°. Granulated honey may be suspected of spoiling if it is filled with air bubbles.

